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ABSTRACT

This inquiry investigates what happened when second grade students taught their peers how to use Microsoft PowerPoint. The study specifically focused on second graders' behaviors when they worked in pairs situated around a computer to create autobiographical slide shows. The setting for this study was a public elementary school in a suburb outside of Philadelphia, Pennsylvania. There were not specific children selected for this study, but the students did range in ability, including learning support students and children in the gifted program. Findings showed that a user-friendly piece of software such as Microsoft PowerPoint is vital. The organization of the assignment coupled with clearly defined students' roles made this study additionally functional. The researcher found this study to be a useful activity with benefits to the tutors, the tutees, and the teacher. The study demonstrated that these second graders were able both to learn how to use PowerPoint and how to teach it to other students since everyone could learn and just about everyone could teach someone else. Two appendixes include a PowerPoint rubric for the Pupil Teacher and a student sample of a finished slideshow with nine sample slides in color. (Contains 17 references.) (Author)

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An Analysis of Students' Interactions in Peer-Tutoring Situations

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Abstract

This inquiry investigates what happened when second grade students taught their peers how to use Microsoft PowerPoint. The study specifically focused on second graders' behaviors when they worked in pairs situated around a computer to create autobiographical slide shows. The setting for this study was a public elementary school in a suburb outside of Philadelphia, PA. There were not specific children selected for this study but the students did range in ability, including learning support students and children in the gifted program.

The researcher of this study found that a user-friendly piece of software such as Microsoft PowerPoint is vital. The organization of the assignment coupled with clearly defined students' roles made this study additionally functional. The researcher found this to be a useful activity with benefits to the tutors, the tutees, and the teacher. The study demonstrated that these second graders were able both to learn how to use PowerPoint and how to teach it to other students since everyone could learn and just about everyone could teach someone else.

Problem Statement

As an instructional assistant, I once worked in a school district that had computer labs throughout all of its elementary schools. This enabled me to experience the "hype" of technology. Once introduced to technology, children who were often timid and confused about writing seemed to act differently. Those who wrote with ease seemed to write more and more. As this "social" area of technology caught my interest, I started listening to the way children would converse with one another while on their own computers. Their language and behavior seemed uncharacteristic of their regular

classroom behavior. Children seemed to be learning from one another rather than relying on their teacher for unanswered questions. The teacher acted like a facilitator rather than an instructor who lectures and shouts off demands. In this school district, it looked as though technology could contribute to a change in communication patterns in classrooms.

Currently, I teach second grade in a suburban school that has just establisheda school computer lab. This district is less affluent than my previous teaching situation and there are fewer computers available for student use. Based on my previous experience coupled with my existing situation, I wondered if this new technology our school has been granted could have a similar impact on students. Furthermore, I wanted to investigate the affects and behaviors of children working and helping each other at the computer. With this in mind, I chose an autobiographical activity that lent itself to Microsoft PowerPoint. It had specific topics that could be presented each on its own slide. A highly structured and heavily scaffolded activity, PowerPoint seemed to be an ideal place to organize it. I realized that students working independently on PowerPoint may have encountered some difficulty. But I felt that, in pairs, this difficulty could be diminished and the activity would become a valuable experience.

The Research Questions:

The purpose of this study was to gain an understanding of what happens when students teach their peers how to use Microsoft PowerPoint. This study describes second graders' behaviors when they work in pairs situated around a computer. The questions I investigated include:

1. Could second graders teach one another how to use Microsoft PowerPoint?
2. How do students behave? Individually? Cooperatively? Socially?

2. How will the children respond to learning from one of their peers?
3. Do children use different language when teaching one another?
4. Will there be resentment? Jealousy? Lack of concentration? Disrespect?
5. How do students instruct other students?
6. Would they act like the teacher? Would they model how they were taught? Or would they do something different?
7. How does peer-tutoring benefit the students? The teacher?

There are many skeptics out there who believe that second graders are unable to learn such software. The questions that I investigated were of interest to me because I wanted to demonstrate that second graders are more than capable of learning how to use Microsoft PowerPoint. When I say more than capable I mean that they are not only able to learn how to use this software but they are also able to teach a same age peer how to use this application.

I felt this program lent itself perfectly to a second grade autobiographical project. It is not a very complicated piece of software allowing even the youngest of children to meander around with not much difficulty. Being that my second graders are a chatty group, I also expected the students to conceivably communicate well around this task.

Review of Literature

Peer-tutoring has been a method thathas proven to be successful. Ironically, it wasn't until the mid 1960s that peer-tutoring was formally accepted and recognized as a valuable tool in education. It is quite possible that the creation of the Elementary and Secondary Education Act of 1965 encouraged the use of peer-tutoring as a learning practicein public schools (Webb, 1987). This act implemented peer-tutoring programs and practices designed to improve the academic performance of limited English

proficient students and low achieving students. At this point in time, education in America started to shift toward learning relationships involving small groups (such as cooperative learning) and teaching methods geared towards the individual student (Webb, 1987).

Classification

Just like this instructional tool's origin, there are many ideas about its definition. There are many meanings and words that are often associated or used interchangeably with this approach. The terms *cross-age tutoring*, *peer teaching*, *peer education*, *partner learning*, *child-teach-child*, *peer cooperation*, *peer collaboration*, and *learning through teaching* (Kalkowski, 1995). There is also *resource-tutoring*, *classroom tutoring*, *tailored tutoring*, and *ripple tutoring*.

Since there are so many diverse uses of tutoring today, I find it necessary to define some of the many current trends and/or categories. Primarily, *cross-age tutoring* involves students in higher-grade levels who work with younger students. *Peer teaching* or *peer-tutoring*, as Robert L. Thomas explains, is a process by which a competent pupil, with minimal training and with a teacher's guidance, helps one or more students at the same grade level learn a skill or concept (1993). Three or four pairs of students scheduled together in a resource room type of atmosphere is called *resource tutoring*. Next, *classroom tutoring* entails two teachers in separate grades to set aside a particular time and place for the tutoring and, in most cases, use cross-age tutoring. The idea behind *tailored tutoring* is that a teacher chooses a criterion, such as addition or vocabulary, by which to pair students using either a cross-age or peer pairing method. *Ripple tutoring* describes a school beginning slowly with a few groups and gradually

expanding until all students and teachers are involved. This is almost like a domino effect.

Keeping all the above terms in mind, it is easy to categorize my study as a "tailored" type of tutoring. Though this may be true, I refer to the pairing of pupils in my study as peer teaching and/or peer-tutoring.

The Needs of the Individual and/or Student

Beginning in childhood, children help each other in many ways. Playing together, they learn important lessons such as sharing, communicating, and cooperating. As children begin to grow facing a number of challenging experiences in school, teachers and parents need to be aware of those relationships that the students develop individually and socially. Abraham Maslow's theory (Gwynne, 1997) of a Hierarchy of Needs supports this idea. In his "love needs" category, he mentions how humans desire to belong to a group or club. Similarly, "esteem needs" identify how individuals require the attention and recognition of others.

Vygotsky developed a theory of human development that places an individual within a social structure. He described the importance of language and its social human process. Through speech children free themselves from the many constraints of their environment. Children can plan, order, and control their own behavior as well as others. Speech becomes part of the higher psychological processes that act to organize, unify, and integrate children's behavior such as perception, memory, and problem solving (Vygotsky, 1978). Individual development is derived from social interactions within which cultural meanings are shared by the group and eventually internalized by the

individual (Richardson, 1997). Human beings obtain knowledge through their environment, including other people in that environment.

Social interaction, interpersonal relations, and communication with others influence learning. These social interactions are an essential stimulus for learning. To facilitate learning, a teacher needs to utilize instructional strategies that engage students in social interaction such as active learning, cooperative learning, peer-tutoring, and the teaching of pro-social skills. Learning is also affected by the emotional state of the learner. For example, if a student is calm, the "normal pathway" for processing information is directed to a certain area of the brain for different kinds of activity like seeing, reading, problem solving, etc. However, if a student is scared or intimidated, the body's natural chemicals, heart rate, and blood pressure fluctuate causing the "normal pathway" to be abandoned and a different route to be sought. This alternate route closes off creative and critical thinking. In other words, learning is enhanced by challenge and inhibited by threat. The ideal learning situation occurs when a student is in a state of "relaxed alertness" (Beyer, 1997) where the child is intrinsically motivated and challenged to go beyond the simple answer.

How can a teacher attempt to control or understand student behavior and thinking? Beyer (1997) talks about the need for classroom teachers to encourage more student thinking. Many different approaches and techniques to promote higher-level student thinking must be considered. Educators must model the behaviors that they want their students to exhibit. Students often mimic what they see their mentors do. In order for students to feel safe and communicate on a higher level of thinking without feeling at risk, the teacher must demonstrate and encourage the behaviors of good thinking.

Beyer also believes that teachers need to create a classroom of relaxed and alert learners. They need to see children as people not just students. Teachers need to empower students by helping them take responsibility of their own behavior. In order to promote a safe learning atmosphere, a classroom needs to be a healthy, risk-free living community of learners that welcomes choice and perceptions (1997).

Advantages

Peer-tutoring makes the teacher's formidable task possible. By using this instructional approach, students are individually accountable and responsible for their work and learning. Students work together on academic tasks in pairs not only to help themselves but aid the learning of their teammates as well. Collaboration increases student achievement. It enhances self-esteem, improves social skills, and has a positive affect on thinking skills (Thomas, 1993).

Research has demonstrated that students can successfully tutor other students. Strikingly, student tutors often benefit as much or more than their tutees. Tutors benefit academically from the time spent reviewing and practicing material with their tutees (Gaustad, 1992). In programs like the Valued Youth Program, in which training classes encourage critical and higher-order thinking skills (Gaustad, 1992), tutors may also practice higher cognitive skills. Tutoring also provides opportunities to practice and improve communication skills and work habits. Tutors' self-esteem rises as they see their tutees improve (Foster-Harrison, 1997).

This method also lends itself to students who are in severe need or "at-risk". Peer-tutoring represents a potentially effective and economical means of addressing LD

and LP students' needs for increased opportunity to read and individualized instruction (Simmons, 1995).

Tutors are most often more effective than teachers because students believe greater efforts may result in achievement equal to a tutor's, while matching a teacher's ability is impossible (Webb, 1987). Students develop common understandings with other students and interact differently than they do in student-adult teacher relationships. Tutees may have more "kid-oriented" expectations and ways to teach and learn. Adults are less likely to be trusted as a friend consequently making them less able to engage in the same socialization forces that can support positive behavior among peers (Foster-Harrison, 1997). Tutoring helps both tutors and tutees to identify the strengths and qualities that make each person extraordinary and special. By doing so, it also promotes a sense of belonging and desire to try harder and perform to the best of each person's ability. Thomas (1993) explains that children learn positive attitudes, values, and skills through peer modeling. They also learn to share, to help, to comfort, and to empathize with others.

Limitations

There are limitations and practical considerations related to the use of peer-tutoring. Class size quite possibly could cause this method to be troublesome. Sometimes it may be difficult to give students the opportunity to be comfortable and sociable in a large classroom. High noise levels may distract a number of children. Another potential source of difficulty may be a mismatch between tutor and tutee. There is the problem of over-dominant and authoritative tutors and the passive and/or shy tutees. It is likely that teacher resistance and tradition may also be a contributing factor. As Damon and Phelps

put it, "Virtually all schooling, in this country and elsewhere, is structured around the traditional belief that knowledge is best transmitted from adult to child in linear fashion" (1989, p. 136). A few other obstacles include: possible tutor impatience, parent cautiousness, scheduling, the lack of tutor expertise, the tutees' fear of long periods of incompetence in front of a same age peer, and the lack of skill needed to train students properly.

Technology Use In Schools

Many schools are now introducing keyboarding in the earliest primary grades. It has become an essential skill for all in our new technological age. Today, children are learning a myriad of basic skills, even social skills, by using a computer at a very early age. With the expansion of technology usage it seems that keyboarding mated with software interaction is often learned at an early age even before children fully understand how to read. With this need for computer education in schools, it is up to administrators and teachers to provide the students with the necessary tools to move forward. Nationwide, school districts vary as to the amount of available funding for computers in schools. Some schools have computer labs; some have a few computers in the classrooms; others have one computer; and there are even some schools that do not have any computers at all (Clark, 2000).

Computers have a justifiable place in early childhood classrooms, as long as attention is given to choosing software. Fite and Guddemi (1991) feel that software should be meaningful, be relevant to the early childhood curriculum, and meet children's needs. They also believe that word processing is one of the most appropriate ways to introduce computers into early childhood programs. Young children want to write, and

the variety and number of language-related experiences they have will directly influence their command of oral and written language (Fite & Guddemi, 1991). Research shows that computers strengthen specific skills, foster creativity and problem solving, and enhance the writing process (Daiute, 1985).

As educational technology demands grow, there will be an increasing number of computers, ready to be utilized, in the classroom. According to Clark, regardless of the growth or potential growth in computer usage, there have been findings indicating that most teachers do not use instructional technologies (2000). In his findings it was discovered that few teachers used computer-based technologies for instructional purposes, low-level tasks such as drills and word processing are the major contribution of technology in the classroom, and computers have not been integrated into most educational curriculums (2000). So now is the time for administrators, colleges, and educators to think about what can be done to use these machines so they may become part of the everyday teaching styles of the instructor.

Conclusion

Research has shown that students can benefit from relationships in which peers assume roles as tutors. Peer-tutoring demonstrates an increase in both tutors' and tutees' academic and social performance. Though it is a time-consuming task, progress can be made towards providing an atmosphere that encourages student thought and social interaction among peers and teacher. This can be accomplished if the classrooms are structured in such a way that educators vary their instructional methods, value students as people, teach students how to think and how to understand the thinking processes and skills, and provide an open forum free from prejudices.

The purpose of this study was to examine peer-tutoring in the use of a software program and to document students' interactions during this activity.

Research Methodology

Population

This study took place in my second grade class in a suburban public school district located in Lower Bucks County, southeastern Pennsylvania. The center of the district is approximately 20 miles from central Philadelphia. The District is rectangularly shaped and covers 17 square miles with a population of approximately 50,000. The district's total enrollment in all schools, kindergarten through 12th grade, is in excess of 6,500 pupils.

The elementary school in which this study took place is located in a small suburban, middle to upper-middle class neighborhood. This educational establishment houses close to 500 children and about 35 staff members. Grade levels range from kindergarten to fifth grade.

Each classroom has three to four PCs with Internet access and two Macs without Internet access. The school district has also established a computer lab. Though this computer lab has 30 PCs and a teacher computer mated with an overhead projector, there is minimal software to work with. The purpose of my study was to gain an understanding of what happens when students teach their peers about technology. This study attempted to analyze students' interactions in peer-tutoring situations.

To conduct this study, I selected second grade students from my own class. I sought students who ranged in computer ability and social skills. My rationale for selecting students of this type is to see if peer-tutoring proved successful regardless of

varying student ability. Through the use of teacher observation and a brief teacher-student interview, a small second grade peer-tutoring sample was formed. I chose an interview format because students usually express themselves better verbally than written. The brief interview of the second graders consisted of questions such as:

1. What kind of student do you consider yourself to be? Why?
2. Do you think learning is easy, medium, or hard? Why or why not?
3. Do you think learning form others is important? Why or why not?
4. How would you describe yourself to me? Friendly? Talkative? Quiet? Shy?
5. Do you have a computer at home?
6. Is there Internet access?
7. Do you know how to use it? If so, who taught you?
8. Do you think using a computer is easy, medium, or difficult? Why?
9. What do you use it for? Games? Internet? Email? Etc.
10. How often do you use it and why?

At the conclusion of all the interviews, a sample was formulated. It is important to mention that the children were picked to represent a variety of abilities, not just the most academically talented or computer-literate students.

My Role

In the beginning of the year and as a means of promoting a sense of belonging and community, I conducted a variety of lessons and activities related to communication, teamwork, cooperation, and peer teaching. All this took place in my regular education classroom as a means of preparing the class for the autobiography project.

The autobiography project consists of seven sections: *All About Me, My Family, My Friends, My School, My Interests or Hobbies, My Likes and Dislikes*, and *What I Want to be When I Grow Up*. This assignment was not only used for instructional purposes but additionally as a tool for encouraging friendship and responsibility. This enabled the students to utilize technology in a new and unfamiliar way. Lastly, this activity is intended to develop the language skills of reading, writing, listening, and speaking.

The second grade students worked on and completed this assignment during writer's workshop without the use of a computer. Each section of the autobiography they completed was written out on a large index card so it would be easier for the students to type from. Upon completion of the written part of this assignment, the second graders were ready to report to the computer lab. In addition to my regular duties as a classroom teacher, I served as a computer instructor for all of the pupils.

When instructing these students, I gave the students a brief overview and introduction to the different parts of the computer and its various functions. Through the use of modeling and hands-on instruction, the children were exposed to the computer program called Microsoft PowerPoint. The children were taught how to utilize this program for their autobiography project. Some of the concepts I taught included how to design a slide show, create a new slide, change views, adjust text color and size, vary background colors and borders, create animation and sound effects, insert graphics, and present the slide show.

As a preliminary way of viewing peer teaching at work, I introduced and taught the tasks mentioned above to three youngsters. Once these students learned my

PowerPoint objectives, they were responsible for teaching their classmates how to do the same tasks they just learned. Through observation and minimal teacher interference, the students became teachers of one another. With varied partnerships, this went on for about a week until all three children had a chance to be both the tutor and the tutee. During this time my role shifted from computer instructor to the role of the participant observer.

At the conclusion of this PowerPoint experience, the second graders completed a technological autobiographical project through the use of peer-tutoring. But these second grade pupils were not finished yet. The true test was how well they were able to teach some of the skills they had acquired to another second grader. Each child from my second grade class was partnered up with another child.

Situated in pairs at a computer, the original second graders who were once instructed by me, individually, with the aid of a kid-friendly teacher-generated rubric (see Appendix A), taught their second grade partners. Since there are so many options and tools in this program, the rubric consisted of a few key concepts like creating a slide show, typing and/or editing text (word processing), changing color, using the spell check, and trying some of the animation effects. Since my second grade class had worked on the autobiography, the second grade tutors could show the second grader tutees how to make a slide show presentation using PowerPoint. It is important to mention however that before the students learned how to do PowerPoint it was necessary for them to have finished the writing assignment. Having to learn PowerPoint while composing the autobiography would have made the whole activity more difficult. When the tutoring sessions began my role then switched to being a facilitator rather than "the instructor".

Data Collection

Students were selected for this study as a result of an interview. This interview took place in the very beginning of the year. Coupled with this interview, a parent questionnaire was sent home with each child. The questionnaire was similar to the questions asked at the student interview. Analyzing the data from both scenarios allowed me to focus on children with certain partners.

Coupled with daily observations and a video camera, I took field notes in a journal so I could reflect upon and look for patterns in my data. At the conclusion of each peer-tutoring session along with the aid of a mini tape recorder that was used to transcribe and analyze data, a final interview was held to see what the second graders had to say about this overall experience. I was very interested to see if student opinions of computers, themselves and their peers may have changed.

Data Analysis

Since I had a variety of methods to gather data for my study, it was vital that I reflected upon and incorporated all of them into my final findings. Through careful observation, note taking, and interviews, I searched for a commonality or difference in my research. Since I was interested in the peer interaction of the children, I was focused on student language (key words or phrases used) and student behavior.

Findings

The Questions

The purpose of this study was to gain an understanding of what happens when students teach their peers how to use Microsoft PowerPoint. This study describes second graders' behaviors when they work in pairs situated around a computer. My initial

inquiry was to see if second graders could actually teach one another how to use this software. Second, whether successful or not, I wanted to know how the children would respond to learning from one of their peers. Specifically, I was interested in how the students behaved individually, cooperatively, and socially. Would the pupils use different language when teaching one another? Would there be resentment, jealousy, disrespect, and/or a lack of concentration? Equally as interesting, I wanted to discover how the students instructed other students. Would they act like the teacher? Would they model how they were taught? Or would they do something different? And lastly, I wanted to affirm the plethora of benefits peer-tutoring has for students and teachers.

The Answers Unveiled

My task was to see if peer-tutoring could be utilized at a second grade level as the primary source of learning Microsoft PowerPoint. It was an interesting journey and challenging task but one which was worth the ride. I was fortunate enough to find many answers to my questions. Knowing the answer before my study started, I confirmed my hypothesis that second graders could in fact teach one another how to use Microsoft PowerPoint. Also, "kid language" played an intricate part which permitted this project to be successful. Most importantly, the benefits of peer-tutoring for the students and me were substantial.

The "Initial" Teaching

The beginning lessons, which took three half-hour sessions at recess, began around one main PC. Three children of ranging ability were chosen: Madison, the low to ability student; Mike, the medium range student; and Nadia, the high ability student. I

wanted to see if their varying academic abilities would affect their ability to master computer skills and then teach them to a peer.

On the first day of instruction, the three pupils watched from behind me as I introduced how to change the size and color of the font. After showing them this activity all three students tried it on their own PC. As I walked back and forth from PC to PC it became apparent that this was an easy task taking them no time at all. My next objective was to show how to change the color of the background and how to troubleshoot if the text color conflicted with the newly changed background color. The students individually gave it a go and once again did not experience any difficulty.

The second day consisted of a review of the earlier day's teachings and then continued with importing graphics, sounds, and animations. Once more all three learners stood behind me as I showed them these new tasks. The children were very eager to try this new set of goals since the "bells and whistles" were much more pleasing to the eye than the previous day's events. As the children manipulated the software importing graphics, animations, and sounds, they made comments such as, "This is so cool." and "WOW! Check this out!" The students, though enthralled in their own work, showed an interest in each other's work as well. They began conversing and sharing their work with each other.

The last day involved an overall review of what the kids learned and how to actually run and present the slide show. In addition, the students were required to show me how to do their slide show from start to finish. I told each one of them that they had to pretend that I was one of their peers not knowing what to do. Through the use of a

kid-friendly rubric (see Appendix A), the children followed along in order and taught me what to do.

After the last session I knew they were ready. I told each child to choose a partner to work with. Madison chose Tiffany (Group1), Mike chose Steve (Group 2), and Nadia chose Becky (Group 3). It was no surprise that they all selected friends to work with. Interesting enough however, all three children that were chosen were of higher ability.

On Their Own

When the peer sessions began the lessons took place around three PCs. Two of the PCs were situated next to each other with four chairs, while the other PC station, with two chairs, was isolated on the other side of the room. I let each pair choose where they wanted to sit. Groups 1 and 2 decided to work next to each other while Group 3 worked on their own. This physical setting intrigued me because I wanted to see how the two pairs would act compared to the single pair completely separated on the other side of the room. It was no surprise that Groups 1 and 2 helped each other out while the isolated pair just worked on their own. Despite these two seemingly different learning atmospheres, all groups were able to achieve the same objectives of learning from a fellow student.

It is important to mention though that the groups working side by side had an advantage – more collaboration. Unintentionally, I had created a failure-proof atmosphere for them. To illustrate this point two girls named Susan (tutor) and Linda (tutee) were sitting next to another pair working together. Linda saw something that interested her and asked, "How did you get that?" The other group reacted by showing

Linda and Susan how to do it. If these two groups had not been sitting next to each other this would never have happened.

Findings

As the cycle continued, and the students changed from being a tutee to a tutor, some observable commonalities among the peer groups came to surface. Almost all of the tutors first showed their partners how to do a given task while sitting down. But when the tutors allowed their tutees to give it a try, they stood behind their counterpart and pointed to the screen. It was interesting to see this because it looked like the tutors were imitating me, the teacher. They were assuming the stance when it was necessary to teach their partner.

Another noticeable factor was the youths' willingness to try things out. None of the children displayed apprehension in learning from or teaching to a second grader. Most of the students couldn't wait to perform this project. Since this assignment was done at recess, many of the students who hadn't done the slide show yet got wind of it from the children who did. I remember hearing a few students say, "Wait until you get to do the slide show. It is so awesome. You get to make machine gun noises and make things fly around. It's really neat." Or, "Teaching your friends stuff instead of listening to the teacher is great. It's like you don't even know you are doing work" Many of the children who finished the projects still wanted to work on them from altering colors and graphics to changing animations wherever they saw fit. I even had students working on their slideshows during free times such as before school, during snack, and after school while waiting for buses to be called.

Seeing that the pairs and the physical atmospheres were functioning, this led me to my first major and obvious finding. Second graders could actually do this. Every time a pair sat down, they got to work, they went through each of the functions and they just did it. They easily learned how to use PowerPoint and its many tools. More importantly they were successful in instructing another student in using this medium. All of the students learned from each other. No one argued. No one daydreamed. No one showed disrespect towards the other. And it didn't matter who you were and what you brought to the table. As one child remarked, "It was just fun and we were learning while we were doing it."

Last year I tried this same autobiographical project with second graders teaching each other how to use PowerPoint. The difference was however, that last year's students weren't given the opportunity to create their autobiographies in a writer's workshop type of atmosphere. Instead they had to create each slide's text from their own mind rather then copying it from an index card. This made the whole process much more difficult because the students were trying to do the writing and learn the software at the same time.

Wanting to find out more I decided to interview 12 children who went through the entire process so I could get a more complete picture. I chose to interview each child twice - once as the tutee and then another as the tutor. This led me to another key finding - intrinsic motivation and responsibility. Each day every student included in this study came eager and motivated to teach and to learn. As educators this is an important finding. It is not every day that we have the power to motivate every single child in our classrooms. With the myriad of student backgrounds and their given situations it is

sometimes impossible to keep them engaged in activities throughout the day. But what I witnessed with these children was exhilarating. Here is an excerpt of an interview I had with a student named Susan.

Teacher: How did you feel being the teacher instead of the student?

Susan: I felt good because I thought I was going to forget everything I learned before but I didn't.

Teacher: Why do you think you didn't forget?

Susan: Because when I was at my house I wrote stuff down to show my mom and I memorized it.

Teacher: Why did you bother to do all that and memorize it?

Susan: Because I liked it so much and I didn't want to mess up.

To further this point another boy Bobby declared, "I guess I was just really interested in doing this and I guess when I started to do this I guess I was just really excited. I just wanted to pay attention that way I would get this really good."

When I asked students to tell me about their tutoring experiences every student but one said they enjoyed it. A student named Mike stated, "It made me feel good and important because I helped someone." "I learned that it's fun to work together. I liked showing how to do things", a girl named Tiffany explained. I feel all of the students' success was due to being in the ideal learning situation or a state of "relaxed alertness" (Beyer, 1997). ... this state children are intrinsically motivated and challenged to go beyond the simple answer. Students feel safe and are able to communicate on a higher level of thinking without feeling at risk. Additionally, Abraham Maslow's theory of a Hierarchy of Needs also (Gwynne, 1997) supports this idea. He mentions how humans

desire to belong to a group or club and that individuals require the attention and recognition of others.

Sherry claimed that she didn't enjoy it. She explained that, "I was afraid that I was going to forget stuff. I wanted to make sure that my partner knew how to do everything. I did kind of like being in charge but it was scary too." Sherry is a self-motivated, highly creative, avid reader and writer, who is also sometimes shy, modest, and insecure. Sherry always does well at anything she attempts but always does so with apprehension. As I kept rewinding the cassette listening to this child over and over again I came to the conclusion that Sherry had, in fact, enjoyed the experience, but was apprehensive about the responsibility and a little leery of what might happen if she failed at her task. Since teaching someone else was a completely new experience for her it was no wonder that she was insecure. Perhaps in this situation Sherry wasn't in her complete state of "relaxed alertness".

As the interviews progressed I asked the children what they thought of learning from a student instead of a teacher. Almost all stated that they liked it more. Much to my surprise, when asked why they enjoyed it more the responses all pointed to kid language. "I understood it more because I understand kids more than grown-ups," a boy named Steve explained. When Jennifer, one of my learning support students, was the learner she claimed, "It is funner because you get to talk more and you get to discuss it." When the roles switched and she became the teacher she had this to say, "I wouldn't change things. I would keep kids in pairs like you did because they listen better. They pay attention because you're kind of joking around but you're really teaching them." Lastly, three boys named Jared, Bobby, and Mike, all interviewed separately, had similar

things to say. "I like learning from a student better because they speak like kid's language." "It was easier because we use kid language." "I think kids can do just as good a job as teachers do because they talk like we do. We talk kid language."

Vygotsky (1978) described the importance of language and its place in the human social experience. Through speech children free themselves from the many constraints of their environment (similar to "relaxed alertness"). This idea of kid language goes along with Vygotsky's beliefs that there are interrelations between thought and language that are necessary for the understanding of intellectual development. Language is not just an expression of the knowledge the child has acquired but that there is a basic connection between thought and speech - language becoming fundamental in forming thought.

I asked the children if they learned more when they were the student or when they were the teacher. The general consensus was when they were the teacher. Trying to teach someone else something we already know is not always an easy task. It sometimes forces us to think in a new and unique way. It is the interaction with others that gives birth to a different type of thinking which then becomes part of our understanding. This correlates with Vygotsky's (1978) belief that an essential feature of learning is that it awakens a variety of internal developmental processes that are able to operate only when the child is in the action of interacting with people in his environment and in cooperation with his peers. Also coinciding with how people learn, "practicing by doing" (75%) and "teaching others" (90%) are at the highest percentage levels of learning retention (Finch & Montambeau, 2000).

Peer-tutoring has many benefits for both tutees and tutors. Some of these benefits include teamwork, increases in student achievement, enhancements of self-esteem,

improvements of social skills, and positive affects on thinking skills. Besides finding the above in my study, values such as patience, trust, and responsibility were also learned.

Tutors are in a unique position to help others learn the material. In this slide show project the tutors were given a responsibility to teach their partners. Responsibility, which is usually a troublesome task for second graders, was welcomed with open arms. All of the students included in this study were able to take on the responsibility of learning for themselves and learning to benefit future tutees. Melissa put it best, "I think it felt good to be the teacher because you knew everything and you were responsible for what the other kid does. And if he or she does something wrong you can show them how to fix it and everything." Wanting to know more I asked Melissa why she chose her partner. She replied, "Just because I wanted to meet someone new. I just wanted her to be my friend."

Here are some more examples to best exhibit my findings. I asked students if they learned anything from being a partner. Becky stated, "I learned that it shows a lot of teamwork." "Letting kids work together makes you help together which means you are learning together", Susan explained. "Steve learned from me and that made me feel good and important," Mike told. I asked, "If you were the teacher would you have kids do this? "Yes. Because it's nice to get to know each other more," claimed Steve. Pat shared with me that, "I would do what you did and put people together because it's sort of fun working with other people in your class instead of the teacher. You get to help each other and learn things and share." Once again Melissa puts it best, "I think the kids are just teaching kids that they have a good relationship and that they won't get in a fight or something if they did something wrong."

From start to finish this activity did not encounter many obstacles. I feel this can be attributed to the relaxed alertness of all the students and, what seemed to be the effortless state of teaching one another. All of the students followed Beyer's model for introducing any thinking skill without ever being taught about this model. They all introduced the skill, explained it, demonstrated how to do it, reviewed what was done, applied the skill, and then reflected by talking about it. And while doing all of the above they were able to enjoy the task and take pleasure in each other's company. Did I accomplish what I set out to do? I think so.

Implications

Peer-tutoring and collaborative type of activities are tools that make the teacher's ambitious goals reachable. By using these instructional approaches, students are individually accountable and responsible for their work and learning. Students work together on academic tasks in small groups not only to help themselves but also to aid the learning of their teammates. Collaboration increases student achievement. It enhances self-esteem, improves social skills, and has a positive affect on thinking skills.

Students often mimic what they see their mentors do. The moral here is that teachers need to see children as people not just students. Educators need to empower students by helping them take responsibility of their own behavior. In order to promote a safe learning atmosphere, a classroom needs to be a healthy, risk-free living community of learners that welcomes choice and perceptions.

In a classroom geared towards thoughtful and respectful learners, instructional time includes activities for class or community building. Time needs to be set aside to teach social and relationship skills for group and interpersonal communication.

Promoting camaraderie and the need for social dealings, the teacher and students develop common values, goals, and expectations. Each member of this learning environment, including the teacher, shares responsibility and helps determine the learning objective. With this infrastructure, a strong sense of loyalty is developed among the community of learners. A positive classroom climate cultivates deeper thinking and respectful learning.

With all the aforementioned what can one learn from this particular study? To begin with, a user-friendly piece of software is vital. Choosing software that is not only user-friendly but one that you are familiar with is also essential. I have had much exposure to this software, which afforded me the ability to conduct this task relatively easily.

The single most important aspect of this study was in fact the organization. As I already mentioned, trying to have children write their autobiographies and learn how to create a slide show simultaneously was nothing but a headache. But by having them write their autobiographies during a time set aside only for writing, this once difficult task became much more achievable. Secondly, putting each heading, like "My Life" or "My Likes/Dislikes", on index cards allowed the children to see how this software was structured. This simple idea made life much easier for the students and me. I feel the structure of this activity was the key to the students' success.

This task also worked due to students' roles being clearly defined. One student was the tutor and the other the tutee. Every single student knew what had to be done. They had to first learn how to use PowerPoint and its functions such as how to change the color of the text and the background, how to change the size of the text, how to import pictures, how to create graphics and sounds, how to run the whole slide show, and how to

save it in the proper place. All of the students knew that once they learned how to do all of those features they were ready to teach someone else.

This peer-tutoring activity was mutually beneficial; both the tutors and tutees stood to gain something. And, of course, it was beneficial for me as the teacher, since I did not have the time to spend with each of my students one-on-one. This was such a useful activity with endless benefits to all. It was one that built up everybody's self-esteem since everyone could learn and just about everyone could teach someone else.

References

Beyer, B. K. (1997). *Improving student thinking: A comprehensive approach.* Boston: Allyn & Bacon.

Clark, K. D. (2000). Urban middle school teachers' use of instructional technology. *Journal of Research on Computing in Education, 33*(2), 179.

Daiute, C. (1985). *Using Microcomputers in Elementary Language Arts Instruction.* [Online]. Available: http://ericae.net/edo/ED264575.htm

Damon, W., & Phelps, E. (1989). *Strategic uses of peer learning in children's education.* New York: John Wiley and Sons.

Finch, J., & Montambeau, E. (2000, March). *Beyond Bells and Whistles: Affecting Student Learning Through Technology.* [Online]. Available: http://www.cofc.edu/bellsandwhistles/research/retentionmodel.html#examples

Fite, K. & Guddemi, M. (1991, January). *Is There a Legitimate Role for Computers in Early Childhood Programs?* [Online]. Available: http://ericae.net/ericdb/ED330456.htm

Foster-Harrison, E.S. (1997). *Peer tutoring for k-12 success.* Bloomington, IN: Phi Delta Kappa Educational Foundation.

Gaustad, J. (1992). Tutoring for at-risk students. *OSSC Bulletin 36*(3), 34-35.

Gwynne, R. (1997). *Maslow's Hierarchy of Needs.* [Online]. Available: http://web.utk.edu/~gwynne/maslow.htm

Jenkins, J.R., & Jenkins, L.M. (1987). Making peer-tutoring work. *Educational Leadership, 44*(6), 64-68.

Kalkowski, P. (1995, March). *Peer and Cross-Age Tutoring.* [Online]. Available:http://www.nwrel.org/scpd/sirs/9/c018.html

Richardson, V. (1997). *Constructivist teacher education: Building new understandings.* Washington: Falmer Press.

Simmons, D.C. (1995). Effects of explicit teaching and peer tutoring on the reading achievement of learning-disabled and low-performing students in regular classrooms. *The Elementary School Journal, 95*(5), 389-390.

Thomas, R.L. (1993, February 1). *Cross-Age and Peer Tutoring.* [Online]. Available:http://www.indiana.edu/~eric_rec/ieo/digests/d78.html

Topping, K. (1989, March). Peer tutoring and paired reading: Combining two powerful techniques. *The Reading Teacher*, 488-492.

Vygotsky, L.S. (1978). *Mind in society: The development of higher psychological processes.* Cambridge: Harvard University Press.

Webb, M. (1987, December). *Peer Helping Relationships in Urban Schools.* [Online].Available: http://www.ed.gov.databases/ERIC_Digests/ed289949.htm

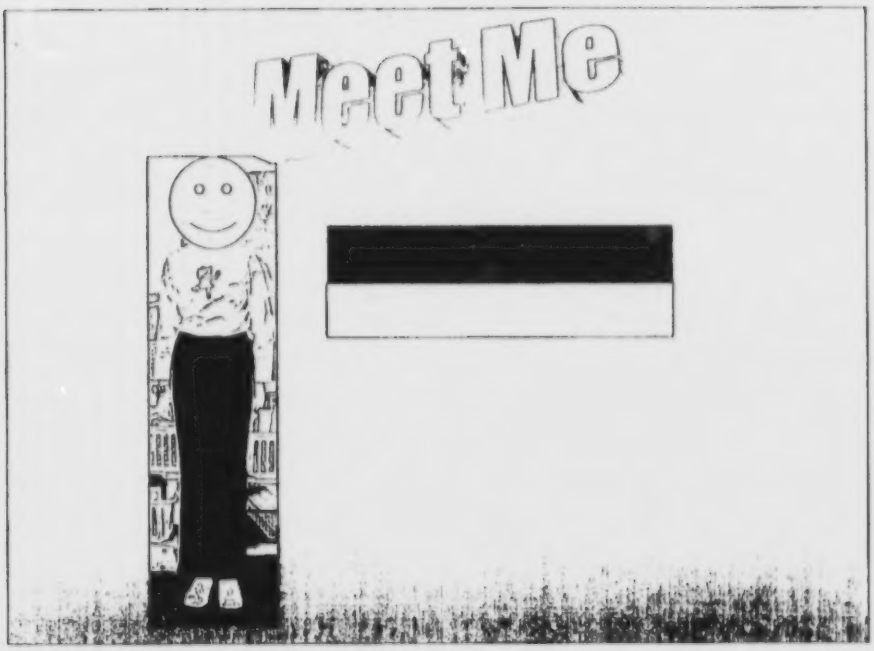
Appendix A

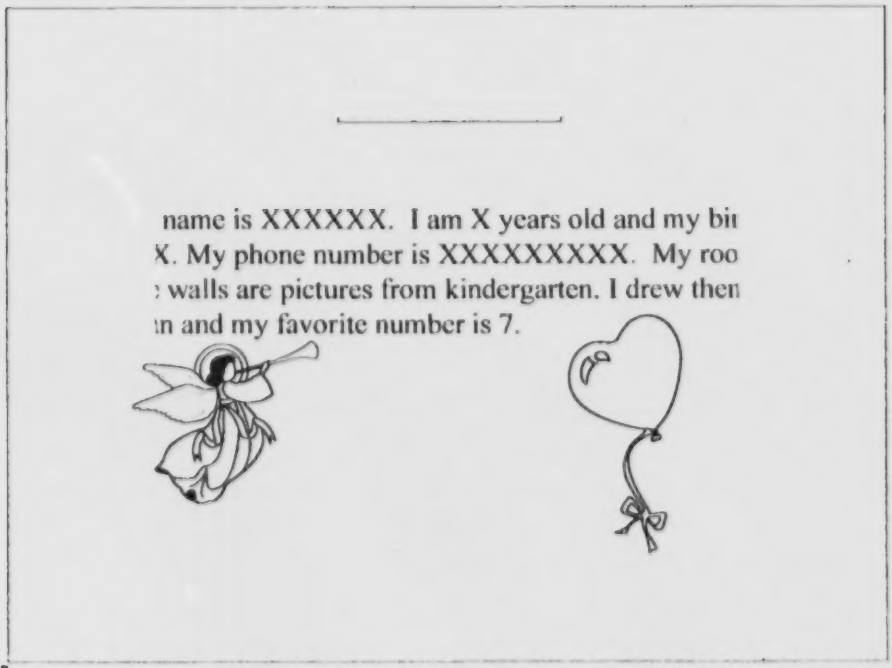
Power Point Rubric for the Pupil Teacher

Day 1	Yes	No
Did I show my partner how to change the color of the words?	☺	☹
Did I show my partner how to change the size of the words?	☺	☹
Did I show my partner how to change the color of the background?	☺	☹
Did I remind my partner to save their work?	☺	☹
Day 2		
Did I show my partner how to put pictures on the slides?	☺	☹
Did I show my partner how to do special effects like making the words and pictures fly around?	☺	☹
Did I show my partner how to make the words and pictures make sounds?	☺	☹
Did I show my partner how to run the whole slide show?	☺	☹
Did I remind my partner to save their works?	☺	☹

Appendix B

Student Sample of a Finished Slideshow




name is XXXXXX. I am X years old and my bi
X. My phone number is XXXXXXXXX. My roo
walls are pictures from kindergarten. I drew then
n and my favorite number is 7.

BEST COPY AVAILABLE

Hi my family is great. We have four people in our family. I have a brother named XXXX. He is XX. We watch lots of Russian movies. My [illegible] is XXXXX and my dad's name is XXXXX.

My friends and I go to lots of birthday parties. We play a lot of games and go to camps. I love having friends my brother has only one friend. My friends names are K.K, Kate, Ellen, Julia, and Alyson. That's only some of my friend's name.

BEST COPY AVAILABLE

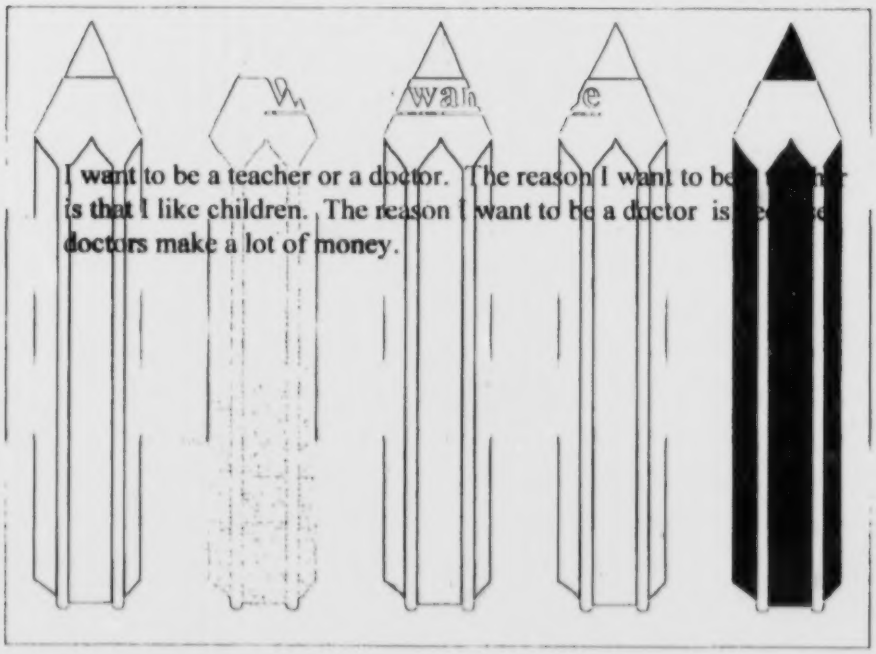
My Activities

...s for swimming. Its name is Spirit Swimming ... for an hour and 30 minutes. I was in a meet on ... a blue ribbon for being first in my heat. I did the ... like.

My school's name is XXXXXX. I am in 2nd grade. We have 24 kids in our class. My teacher's name is Mr.V. My principal's name is Mrs.G. I have a lot of friends there. I love computer lab too. School is fun.

BEST COPY AVAILABLE

I really like everything in school. The thing I don't like in school is boring things like recess. But sometimes I like recess. I like computers and I also like to learn. I lik

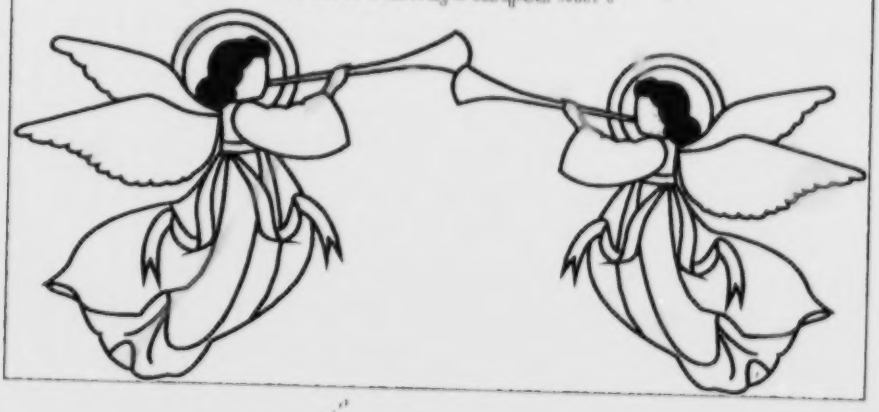


I want to be a teacher or a doctor. The reason I want to be [illegible] is that I like children. The reason I want to be a doctor is [illegible] doctors make a lot of money.

BEST COPY AVAILABLE

What I Want to Remember 20 Years from Now

Over all my teachers I had in sch...
...and how I always helped Mr. V



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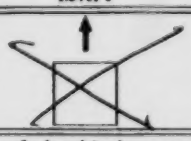		
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